UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,544	10/30/2003	Bernardo A. Huberman	200313330-1	3054

22879   7590   07/26/2007
HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER
GYORFI, THOMAS A

ART UNIT	PAPER NUMBER
2135	

MAIL DATE	DELIVERY MODE
07/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/699,544	HUBERMAN ET AL.
	Examiner	Art Unit
	Tom Gyorfi	2135

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 April 2007</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,6-8,11-13 and 15-22</u> is/are rejected.

7) ☒ Claim(s) <u>3-5,9,10 and 14</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-22 remain for examination.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-22 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1, 2, 6-8, 11-13, and 15-22 are rejected under 35 U.S.C. 102(e) as being

anticipated by Jansen (U.S Patent Application Publication 2004/0208638).

Regarding claims 1, 15, 19, 21, and 22:

        Jansen discloses a method and system for coordinating predefined actions for at

least two nodes, comprising: generating at least two quantum-entangled particles

(paragraphs 0036 and 0037); defining at least two selectable actions being identified by

a first quantum state and a second one of the at least two quantum-entangled particles

being identified by a second quantum state that is different from the first quantum state (paragraphs 0047, 0066, and 0100); sending a respective one of the quantum entangled particles to each of the at least two nodes (paragraph 0054); detecting a state of a first one of the quantum entangled particles at a first one of the nodes, whereby a state of each other of the quantum entangled particles is fixed to the detected state of the first one of the quantum entangled particles (paragraphs 0096-0099); after detecting the state of the first one of the quantum entangled particles, detecting the fixed state of a second one of the quantum entangled particles at a second one of the nodes (Ibid); and for at least one of the first and second nodes, selecting and performing one of the at least two predefined actions, in part, as a function of the detected state of the quantum entangled particles and the quantum state identification of the predefined actions (paragraph 0100).

Regarding claim 2:

Jansen further discloses comparing the detected state to the quantum state identifications, and in response to finding a matching state, performing the predefined actions identified by the matching state (paragraphs 0100-0102).

Regarding claim 6:

Jansen further discloses generating quantum entangled photons and sending a respective one of the photon pairs to each of the at least two nodes (paragraphs 0054 and 0096-0098).

Regarding claim 7:

Jansen further discloses generating pairs of photons having consistent polarization and generating a result that is consistent for each node as a function of the polarization (paragraph 0035).

Regarding claim 8:

Jansen further discloses identifying an expected lifetime of the entangled state of the quantum-entangled particles (paragraph 0073); and wherein detecting a state of a first one of the quantum-entangled particles includes detecting the states prior to the expected lifetime expiring (Ibid).

Regarding claim 11:

Jansen further discloses wherein defining at least two selectable actions includes defining two selectable actions at a first node, further comprising sending the two selectable actions to a second node and using the detected state of the quantum-entangled particles and the two selectable actions at the second node to audit the selection and performance of one of the two selectable actions at the first node (paragraphs 0100-0102).

Regarding claim 12:

Jansen further discloses wherein selecting and performing one of the at least two predefined actions includes independently selecting and performing one of the at least two predefined actions (paragraph 0100).

Regarding claim 13:

Jansen further discloses wherein independently selecting and performing one of the at least two predefined actions includes selecting and performing one of the at least two predefined actions at a first one of the nodes without communicating with other ones of the nodes after sending the respective one of the quantum-entangled particles to each of the at least two nodes (Ibid, and paragraph 0070).

Regarding claim 16:

Jansen further discloses wherein generating an output as a function the detected states of the quantum-entangled particles from each set of quantum-entangled particles includes comparing the detected states of at least two quantum-entangled particles at each node and performing a first function in response to the detected states that match and performing a second function in response to the detected states that do not match (reporting a bit vs. reporting an error: paragraph 0100).

Regarding claim 17:

Jansen further discloses wherein generating an output as a function the detected states of the quantum-entangled particles from each set of quantum-entangled particles includes generating at least two inputs as a function of the detected states and processing the inputs to generate the output (paragraphs 0065-0067).

Regarding claim 18:

Jansen further discloses generating at least two bits for the encoding function

and processing the inputs with the encoding function to generate a coding output

(paragraph 0067).

Regarding claim 20:

Jansen further discloses processing at each of the first and second nodes the

detected state to generate an output indicative of the coordinated time and viewable by

a user (paragraph 0070).

Allowable Subject Matter

5.   Claims 3-5, 9, 10, and 14 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Conclusion

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tom Gyorfi whose telephone number is (571) 272-3849.

The examiner can normally be reached on 8:30am - 5:00pm Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TAG
7/20/07

KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100